

## REMARKS/ARGUMENTS

Initially, Applicant would like to express his appreciation to the Examiner for withdrawing the previous rejections, as well as the finality of the previous Official Action.

In the present Official Action, claims 24-25, 27, 32, 36, 38, 45-49, 51, and 53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WILSON et al. (U.S. Patent Application Publication No. 2001/0021265 A1) in view of ONDRICEK et al. (U.S. Patent No. 6,887,723 B1). Claims 28-30, 33, 35, 40-41, 50, and 52 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WILSON in view of ONDRICEK and IZAWA et al. (U.S. Patent Application Publication No. 2002/0103563 A1).

Claims 45, 47-49, and 52 have been amended. Claims 1-23, 26, 31, 34, 37, 39, and 42-44 have been previously cancelled. Thus, claims 24-25, 27-30, 32-33, 35-36, 38, 40-41, and 45-53 are currently pending for consideration by the Examiner.

In the Official Action, claims 24-25, 27, 32, 36, 38, 45-49, 51, and 53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WILSON in view of ONDRICEK. With regard to independent claims 45-49, 51, and 53, the Official Action has made a generalized rejection to cover all of the above-cited independent claims together. The Official Action asserts that WILSON discloses a circuit substrate production method and system for a multi-piece substrate, which includes a plurality of substrate pieces that are separated at various separation levels similar to that recited in Applicant's independent claims. The Official Action also asserts that the various separated pieces each include an information recording portion. In support of these assertions, the Official Action cites WILSON's paragraphs [0008], [0020]-[0023], [0033], and [0037].

However, the Official Action acknowledges that WILSON fails to disclose the information in the information recording portion being configured with information related to the substrate, sheet, and piece. Nevertheless, the Official Action asserts that ONDRICEK discloses these features, primarily citing ONDRICEK's Figure 13A and column 10, lines 53-67, and concludes that independent claims 45-49, 51, and 53 would have been obvious.

Contrary to the assertions made by the Official Action, Applicant respectfully submits that the specific combination of features recited in independent claims 45-49, 51, and 53 would not have been obvious to one of ordinary skill in the art at the time of the invention, in view of WILSON and ONDRICEK, for at least several reasons.

For instance, with regard to the "substrate, sheet, and piece information", amended independent claim 45 explicitly recites *configuring, by the substrate manufacturer, the multi-piece substrate to include an information recording portion that includes information related to the entire multi-piece substrate* (emphasis added). Independent claim 45 also recites that *each substrate sheet is configured with an information recording portion that includes information related to the entire multi-piece substrate and information related to the identification of the substrate sheet* (emphasis added). Claim 45 further recites that *each substrate piece is configured with an information recording portion that includes information related to the entire multi-piece substrate, information related to a substrate sheet, and information related to the identification of the substrate piece* (emphasis added). Thus, amended independent claim 45 explicitly recites a specific hierarchy of information that is different and progressively more detailed from the multi-piece substrate information recording portion, to the more detailed substrate sheet information recording portions, to the most detailed substrate piece information recording portions.

As stated above, the Official Action acknowledges that WILSON fails to disclose the above-cited specific configuration, as recited in independent claim 45, but asserts that ONDRICEK discloses these features, citing ONDRICEK's Figure 13A.

In addition to the acknowledged deficiencies of Wilson, Applicant submits that WILSON particularly fails to disclose a *substrate manufacturer* producing a multi-piece substrate or the configuring of the multi-piece substrate with information recording portions in the specific manner recited in claim 45. Additionally, Applicant submits that WILSON's paragraph [0033] relates to the assembly of an IC device (42), with the carrier (48) and IC device (42) having location codes, which is distinctly different from the configuration of the multi-piece substrate by a substrate manufacturer, as recited in claim 45.

Furthermore, Applicant submits that ONDRICEK fails to remedy the deficiencies of WILSON, particularly since ONDRICEK is directed to a method for transporting and handling of die from an original wafer to a test board. More specifically, ONDRICEK's tracking label is applied to a carrier (130), and not to a multi-piece substrate, substrate sheet, and substrate piece as recited in independent claim 45. See ONDRICEK's Figures 1, 13A, and 13B. In fact, Applicant submits that ONDRICEK actually teaches away from Applicant's invention since ONDRICEK clearly states that "(a)lthough tracking abilities exist on the wafer level, no such ability is currently available on a die level". See ONDRICEK, column 10, lines 44-45.

Thus, for at least the reasons discussed above, Applicant respectfully submits that amended independent claim 45 would not have been obvious to one of ordinary skill in the art at the time of the invention in view of WILSON and ONDRICEK. Additionally, Applicant submits that independent claims 46-49, 51, and 53 are also patentable for reasons similar to the reasons

discussed above regarding independent claim 45, since independent claims 46-49, 51, and 53 recite features similar to the features recited in independent claim 45.

Furthermore, with regard to independent claim 51 and 53, Applicant submits that neither WILSON, nor ONDRICEK discloses recording the specific management and manufacturing information on the substrate information recording portions of the substrate, including *mounting manufacturer management information, substrate manufacturer management information, a manufacturing lot number, a total number of substrates included in a lot, a substrate sequence number, a substrate sheet code, and a substrate piece code*, as explicitly recited in claims 51 and 53.

Additionally, Applicant submits that claims 24-25, 27, 36, and 38, which depend upon the independent claims cited above, are patentable for at least the reasons discussed above, and further for the additional features recited therein. Accordingly, Applicant respectfully requests that the rejection of claims 24-25, 27, 32, 36, 38, 45-49, 51, and 53 under 35 U.S.C. § 103(a) as being unpatentable over WILSON in view of ONDRICEK be withdrawn, and an indication of the allowability of claims 24-25, 27, 32, 36, 38, 45-49, 51, and 53 be provided in the next Official communication.

Claims 28-30, 33, 35, 40-41, 50, and 52 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WILSON in view of ONDRICEK and IZAWA. In this rejection, the Official Action incorporates the application WILSON and ONDRICEK in a manner similar to that applied to independent claim 45, and adds IZAWA for teaching a computer environment that utilizes a data processing center. As a result, Applicant respectfully submits that independent claims 50 and 52 are patentable for reasons similar to the reasons discussed above regarding

independent claim 45, since IZAWA fails to remedy the deficiencies of WILSON and ONDRICEK discussed above, and since claims 50 and 52 include features similar to claim 45.

Additionally, Applicant submits that IZAWA's general disclosure of a computer environment utilizing a communication network and a database fails to disclose or render obvious the specific features in claim 50 that explicitly recite transmitting production information and identification information from a substrate manufacturer and from a mounting manufacturer to a data processing center via a communication network (emphasis added).

Applicant submits that the cited sections of IZAWA do not disclose the transmission of such information from both a substrate manufacturer and from a mounting manufacturer to a data processing center. Applicant also submits that the specific methodology recited in claim 50 would not have been obvious to one of ordinary skill in the art at the time of the invention, in view of the relatively limitless number of possible methods that would have presented themselves to one ordinary skill in the art. Applicant further submits that IZAWA fails to disclose the similar features of claim 52 that relate to the retrieving of the data from the various databases by both the substrate manufacturer and the mounting manufacturer.

Furthermore, Applicant submits that the obviousness rationale asserted in the Official Action is improper because the rationale goes significantly beyond the knowledge that was within the level of ordinary skill in the art at the time of the invention, and was based on the description of the invention provided in Applicant's disclosure. Applicant submits that without using Applicant's disclosure as a roadmap, one of ordinary skill in the art would not have pieced the three distinct references together in the manner asserted, given the relatively limitless number of possible configurations that would have been presented to one of ordinary skill in the art at the time of the invention.

For at least the reasons discussed above, Applicant submits that the specific combination of features recited in independent claims 50 and 52 would not have been obvious to one of ordinary skill in the art at the time of the invention, in view of WILSON, ONDRICEK, and IZAWA. Accordingly, Applicant respectfully requests that the rejection of claims 28-30, 33, 35, 40-41, 50, and 52 under 35 U.S.C. § 103(a) as being unpatentable over WILSON in view of ONDRICEK and IZAWA be withdrawn.

In view of the above discussion, Applicant respectfully requests that the rejection of claims 24-25, 27-30, 32-33, 35-36, 38, 40-41, and 45-53 under 35 U.S.C. § 103(a) be withdrawn, and that an indication of the allowability of claims 24-25, 27-30, 32-33, 35-36, 38, 40-41, and 45-53 be provided in the next Official communication.

## SUMMARY

From the amendments, arguments, and remarks provided above, Applicant submits that all of the pending claims in the present application are patentable over the references cited by the Examiner, either alone or in combination. Accordingly, reconsideration of the outstanding Official Action is respectfully requested and an indication of the allowance of claims 24-25, 27-30, 32-33, 35-36, 38, 40-41, and 45-53 is now believed to be appropriate.

Applicant notes that this amendment is being made to advance prosecution of the application to allowance, and should not be considered as surrendering equivalents of the territory between the claims prior to the present amendment and the amended claims. Further, no acquiescence as to the propriety of the Examiner's rejections is made by the present amendment. All other amendments to the claims which have been made by this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should there be any questions, the Examiner is invited to contact the undersigned at the below-listed telephone number.

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